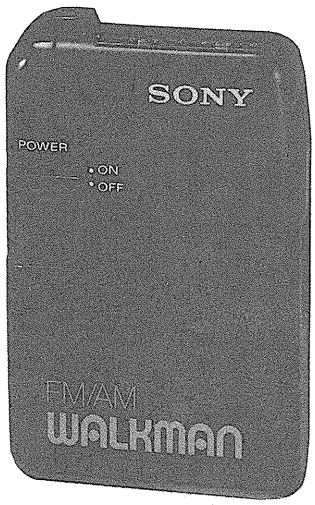
SRF-29

SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model



SPECIFICATIONS

Frequency range	FM:87.6-108MHz (US,Canadian model)
	AM:530-1,710kHz (US,Canadian model)
	FM:87.6-107,5MHz (AEP,E model)
	AM:530-1,605kHz (AEP,E model)
Antennas	FM:Headphone cord antenna
	AM:Built-in ferrite bar antenna
Power output	15mW+15mW(at 10% harmonic distortion) with headphones having impedance of 32 ohms at DC operation
Output	Headphone jack (stereo minijack) load impedance 32 ohms
Power requirements	3V DC, two R6 (size AA) batteries
Battery life	Approx. 18 hours with Sony batteries SUM-3 (NU)
Dimentions	Approx. 65.5 x 105.5 x 30 mm (w/h/d) (2 5/8 x 4 1/4 x 13/16 inches) not incl. projecting parts and controls
Weight	Approx. 85g (3oz) not incl. batteries
Accessories supplied	Stereo headphones (open-air type,1)

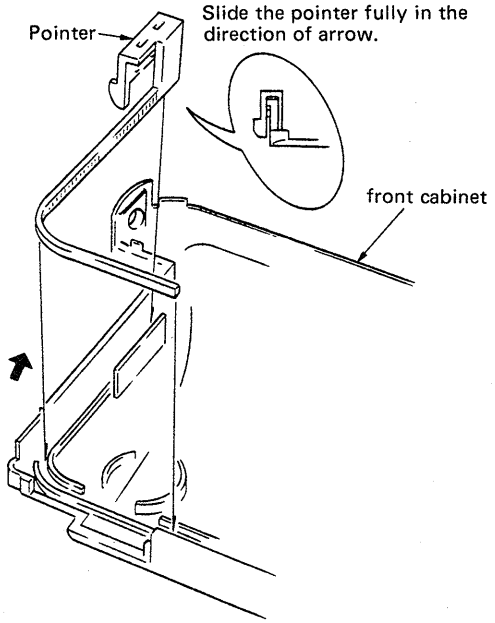
Design and specifications subject to change without notice.

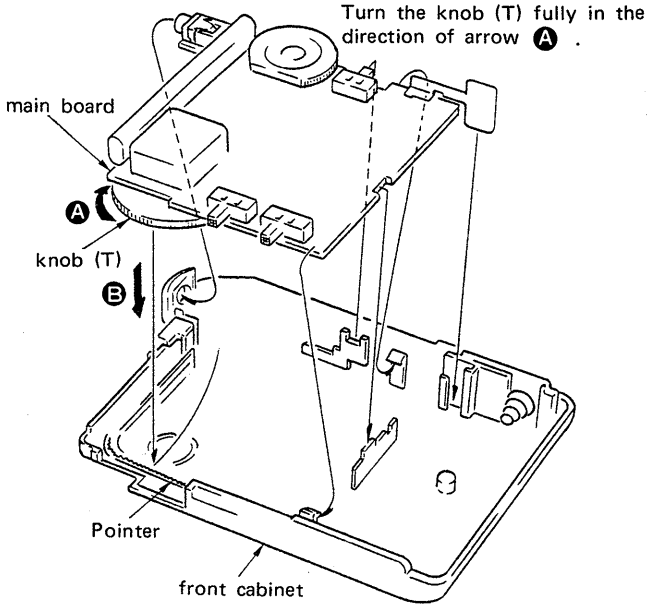
AM/FM STEREO RECEIVER

SONY®

SECTION 1
DISASSEMBLY

POINTER SETTING





SECTION 2
ELECTRICAL ADJUSTMENTS

ELECTRICAL ADJUSTMENTS

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM Section

BAND selector: FM
FM SENS selector: ST (AEP, E, Italian)
: DX (US, Canadian)
VOLUME control: mechanical mid

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a maximum reading on VTVM.		
US, Canadian AEP, E, Italian	86.5MHz 87.35MHz	109.5MHz 108.05MHz
	L4	CT3

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
86.5MHz	109.5MHz
L3-1, L3-2	CT2

AM Section

BAND selector: AM
VOLUME control: mechanical mid

AM FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a maximum reading on VTVM.		
US, Canadian AEP, E, Italian	520kHz 520kHz	1,750kHz 1,650kHz
	L5	CT4

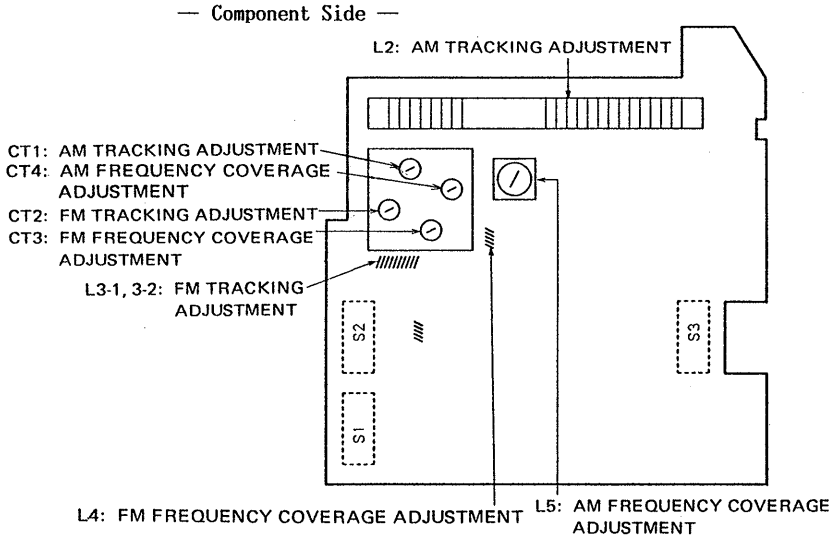
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
620kHz	1,400kHz
L2	CT1

AM IF ADJUSTMENT
Adjust for a maximum reading on VTVM.
T1

FM MPX ADJUSTMENT (VCO)

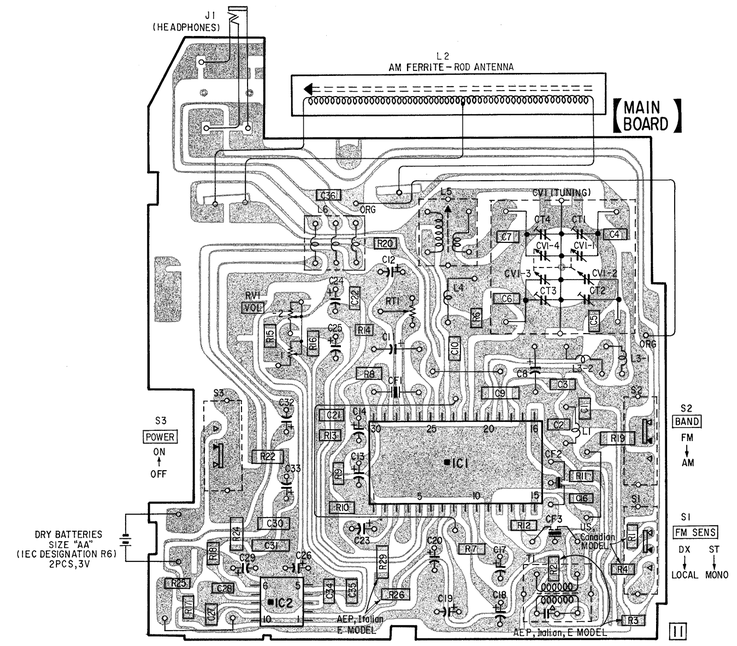
1. Short IC1 pin 1 and pin 29.
2. Connect a 33kohm resistor between IC1 pin 4 and pin 7.
3. Connect the frequency counter through 1μF electrolytic capacitor between IC1 pin 4 and ground.
4. Adjust RT1 for the reading of 76kHz on the Frequency counter.

Adjustment Location: MAIN BOARD
— Component Side —



SECTION 3
DIAGRAMS

PRINTED WIRING BOARDS

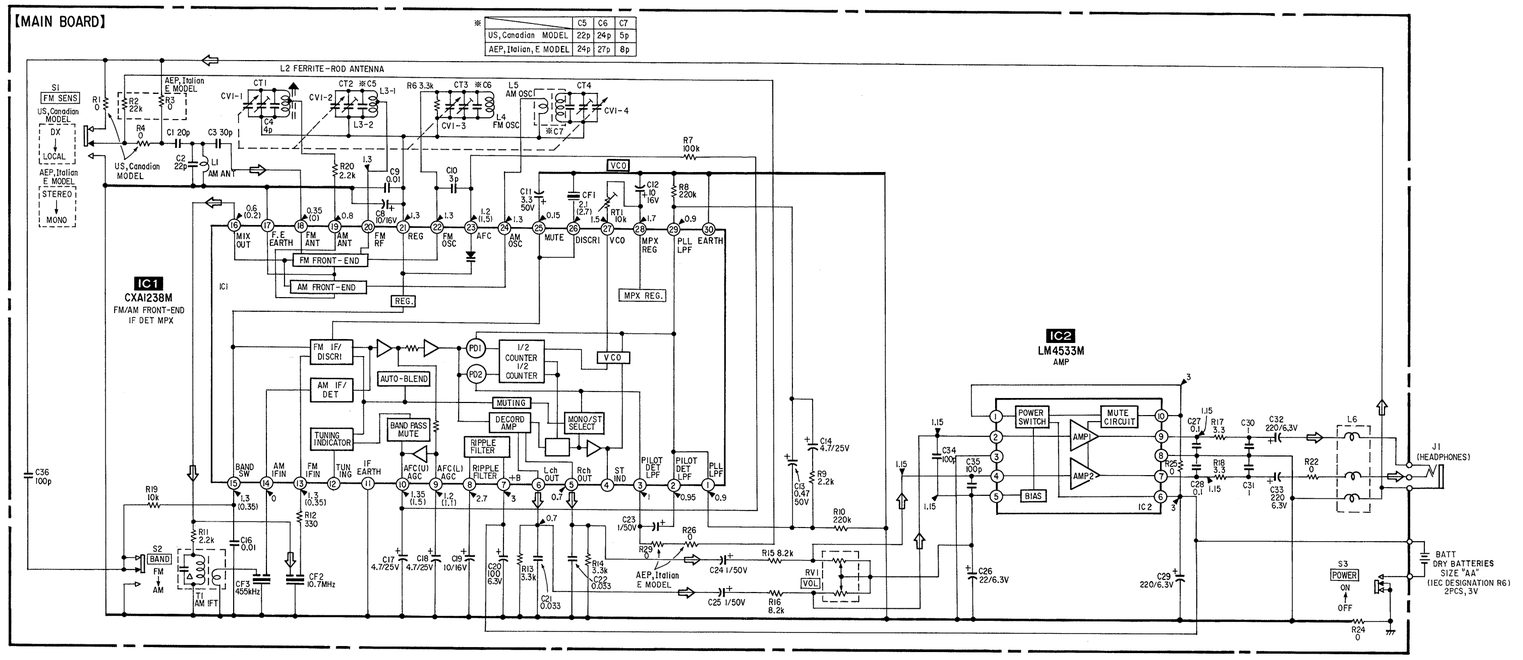


● Semiconductor Lead Layouts

CXA1238M

LA4533M

SCHEMATIC DIAGRAM

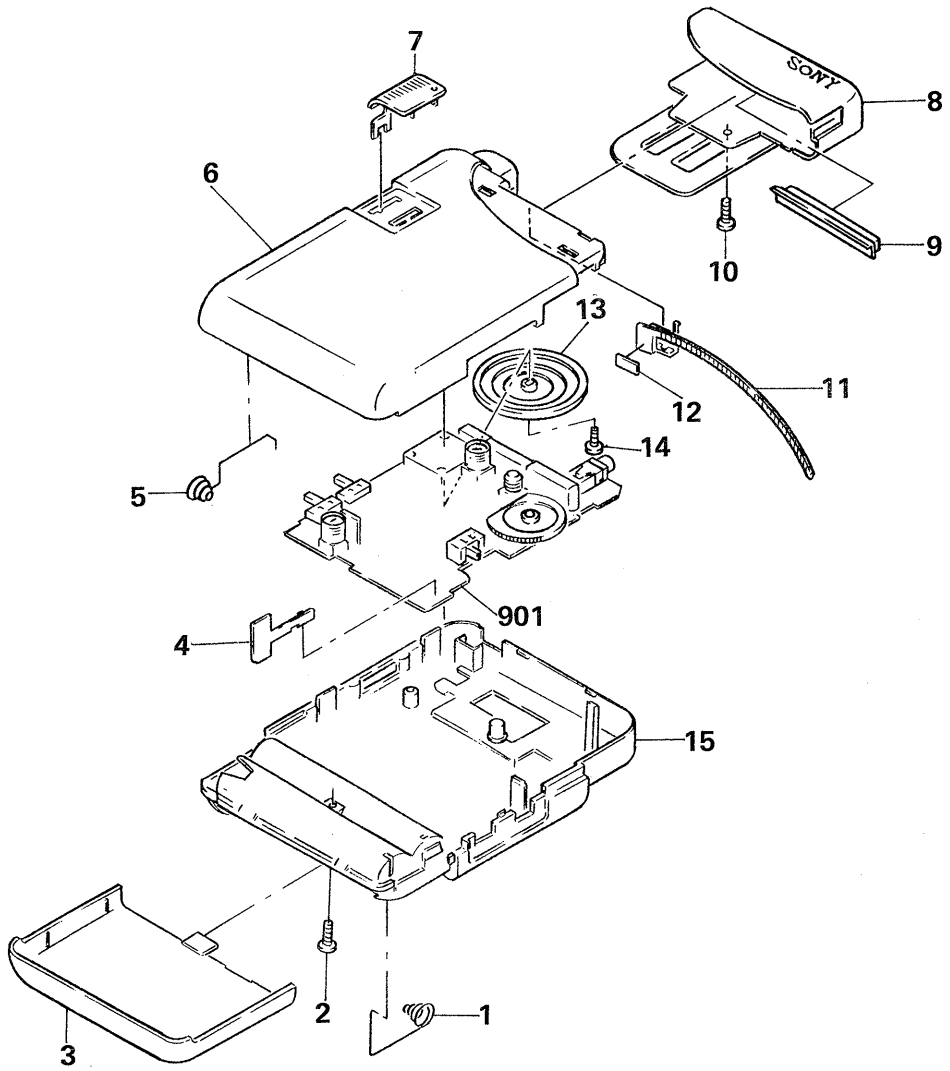


- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ : internal component.
- ▭ : adjustment for repair.
- Power voltage is 3V dc and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM. (input impedance 10 MΩ) Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

SECTION 4
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color



No.	Part No.	Description	Remarks
1	3-901-636-01	SPRING	
2	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
3	3-901-627-01	(BLACK).....LID, BATTERY CASE	
	3-901-627-11	(AEP,Italian:WHITE)...LID, BATTERY CASE	
4	3-901-634-01	TERMINAL (+)	
5	3-901-635-01	SPRING (-)	
6	3-901-629-01	(BLACK).....CABINET (FRONT)	
	3-901-629-11	(AEP,Italian:WHITE)...CABINET (FRONT)	
7	3-901-625-01	(BLACK).....KNOB (P)	
	3-901-625-11	(AEP,Italian:WHITE)...KNOB (P)	
8	3-901-628-01	(US,Canadian:BLACK)...CABINET (TOP)	
	3-901-628-11	(AEP,Italian:WHITE)...CABINET (TOP)	
	3-901-628-21	(AEP,E:BLACK).....CABINET (TOP)	

No.	Part No.	Description	Remarks
9	3-901-623-01	PLATE, INDICATION	
10	7-685-204-19	SCREW +KTP 2X6 TYPE2 SLIT	
11	3-901-624-01	POINTER	
12	*3-901-645-01	PAPER, ORNAMENTAL	
13	3-901-626-01	KNOB (T)	
14	3-714-118-01	SCREW (1.7X4)	
15	3-901-630-01	(US,Canadian:BLACK)...CABINET (REAR)	
	3-901-630-12	(AEP,Italian:WHITE)...CABINET (REAR)	
	3-901-630-22	(AEP,E:BLACK).....CABINET (REAR)	
901	*A-3660-830-A	(US,Canadian).....MOUNTED PCB, MAIN	
	*A-3660-860-A	(AEP,E,Italian)...MOUNTED PCB, MAIN	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

Ref.No.	Part No.	Description		
901	*A-3660-830-A	(US,Canadian).....MOUNTED PCB, MAIN		
	*A-3660-860-A	(AEP,E,Italian)...MOUNTED PCB, MAIN		
C1	1-163-100-00	CERAMIC CHIP 20PF	5%	50V
C2	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C3	1-163-104-00	CERAMIC CHIP 30PF	5%	50V
C4	1-163-085-00	(AEP,E,Italian)... CERAMIC CHIP 2PF	0.25PF	50V
C4	1-163-087-00	(US,Canadian)..... CERAMIC CHIP 4PF	0.25PF	50V
C5	1-163-101-00	(US,Canadian)..... CERAMIC CHIP 22PF	5%	50V
C5	1-163-102-00	(AEP,E,Italian)... CERAMIC CHIP 24PF	5%	50V
C6	1-163-102-00	(US,Canadian)..... CERAMIC CHIP 24PF	5%	50V
C6	1-163-103-00	(AEP,E,Italian)... CERAMIC CHIP 27PF	5%	50V
C7	1-163-091-00	(AEP,E,Italian)... CERAMIC CHIP 8PF	0.25PF	50V
C7	1-163-348-91	(US,Canadian)..... CERAMIC CHIP 5PF	0.25PF	50V
C8	1-126-157-11	ELECT 10MF	20%	16V
C9	1-163-059-00	CERAMIC CHIP 0.01MF	10%	50V
C10	1-163-086-00	CERAMIC CHIP 3PF	0.25PF	50V
C11	1-126-162-11	ELECT 3.3MF	20%	50V
C12	1-126-157-11	ELECT 10MF	20%	16V
C13	1-124-465-00	ELECT 0.47MF	20%	50V
C14	1-126-094-11	ELECT 4.7MF	20%	25V
C16	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C17	1-126-094-11	ELECT 4.7MF	20%	25V
C18	1-126-094-11	ELECT 4.7MF	20%	25V
C19	1-126-157-11	ELECT 10MF	20%	16V
C20	1-126-177-11	ELECT 100MF	20%	6.3V
C21	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V
C22	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V
C23	1-124-438-00	ELECT 1MF	20%	50V
C24	1-124-438-00	ELECT 1MF	20%	50V
C25	1-124-438-00	ELECT 1MF	20%	50V
C26	1-124-638-11	ELECT 22MF	20%	6.3V
C27	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C28	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C29	1-124-635-00	ELECT 220MF	20%	6.3V
C30	1-162-638-11	CERAMIC CHIP 1MF		16V
C31	1-162-638-11	CERAMIC CHIP 1MF		16V
C32	1-124-635-00	ELECT 220MF	20%	6.3V
C33	1-124-635-00	ELECT 220MF	20%	6.3V
C34	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C35	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C36	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
CF1	1-577-326-81	FILTER, CERAMIC		
CF2	1-577-326-81	FILTER, CERAMIC (10.7MHz)		
CF3	1-527-870-00	FILTER (455kHz)		
CV1	1-151-641-11	(US,Canadian).....CAP, VARIABLE		
CV1	1-151-658-11	(AEP,E,Italian)...CAP, VARIABLE		
IC1	8-752-033-57	IC CXA1238M		
IC2	8-759-802-75	IC LA4533M		
J1	1-563-857-11	JACK, HEADPHONE		
L1	1-401-228-00	ANTENNA COIL (AM ANT)		
L2	1-402-421-11	ANTENNA, FERRITE-ROD (AM)		
L3-1	*1-422-295-11	COIL, AIR-CORE		
L3-2	*1-422-620-11	COIL, AIR CORE		
L4	*1-422-296-11	COIL, AIR-CORE (FM OSC)		
L5	1-406-028-00	COIL, OSC (AM OSC)		
L6	1-409-365-00	COIL, TRAP		
R1	1-216-295-00	(US,Canadian)..... METAL GLAZE	0	5% 1/10W
R2	1-216-081-00	(AEP,E,Italian)... METAL GLAZE	22K	5% 1/10W
R3	1-216-295-00	(AEP,E,Italian)... METAL GLAZE	0	5% 1/10W
R4	1-216-295-00	(US,Canadian)..... METAL GLAZE	0	5% 1/10W
R6	1-216-061-00	METAL GLAZE	3.3K	5% 1/10W
R7	1-216-097-00	METAL GLAZE	100K	5% 1/10W
R8	1-216-105-00	METAL GLAZE	220K	5% 1/10W
R9	1-216-057-00	METAL GLAZE	2.2K	5% 1/10W
R10	1-216-105-00	METAL GLAZE	220K	5% 1/10W
R11	1-216-057-00	METAL GLAZE	2.2K	5% 1/10W
R12	1-216-037-00	METAL GLAZE	330	5% 1/10W
R13	1-216-061-00	METAL GLAZE	3.3K	5% 1/10W
R14	1-216-061-00	METAL GLAZE	3.3K	5% 1/10W
R15	1-216-071-00	METAL GLAZE	8.2K	5% 1/10W
R16	1-216-071-00	METAL GLAZE	8.2K	5% 1/10W
R17	1-216-304-11	METAL GLAZE	3.3	5% 1/10W
R18	1-216-304-11	METAL GLAZE	3.3	5% 1/10W
R19	1-216-222-00	METAL GLAZE	10K	5% 1/8W
R20	1-216-057-00	METAL GLAZE	2.2K	5% 1/10W
R22	1-216-296-00	METAL GLAZE	0	5% 1/8W
R24	1-216-296-00	METAL GLAZE	0	5% 1/8W
R25	1-216-295-00	METAL GLAZE	0	5% 1/10W

Ref.No.	Part No.	Description
R26	1-216-295-00	(AEP,E,Italian) ...METAL GLAZE 0 5% 1/10W
R29	1-216-296-00	(AEP,E,Italian) ...METAL GLAZE 0 5% 1/8W
RT1	1-230-523-11	RES, VAR, CARBON 10K
RV1	1-238-510-11	RES, VAR, CARBON 20K
S1	1-571-866-11	SWITCH, SLIDE (FM SENS)
S2	1-571-866-11	SWITCH, SLIDE (BAND)
S3	1-571-866-11	SWITCH, SLIDE (POWER)
T1	1-404-341-00	TRANSFORMER, IF

ACCESSORY & PACKING MATERIAL

3-750-174-11	(AEP).....MANUAL, INSTRUCTION
3-750-174-31	(Canadian)...MANUAL, INSTRUCTION
3-750-174-41	(Italian)....MANUAL, INSTRUCTION
3-750-174-51	(E).....MANUAL, INSTRUCTION
*3-901-657-01	(E)...INDIVIDUAL, CARTON
*3-901-658-01	(E)...CUSHION
*3-901-659-01	(E)...SPACER
*3-901-672-01	(E)...SHEET, PROTECTION
8-952-447-90	MDR-006L/1 SET

9-953-600-12

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